UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450.
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/801,556	03/17/2004	Shigeo Terabe	04329.3274	3481

22852 7590 05/04/2007

FINNEGAN, HENDERSON, FARABOW, GARRETT & DUNNER LLP
901 NEW YORK AVENUE, NW
WASHINGTON, DC 20001-4413

EXAMINER	
CUMMING, WILLIAM D	
ART UNIT	**PAPER NUMBER**
2617	

MAIL DATE	DELIVERY MODE
05/04/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/801,556	SHIGEO TERABE	
	Examiner	Art Unit	
	WILLIAM D. CUMMING	2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 2 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 March 2007*.

2a)☐ This action is **FINAL**. 2b)☐ This action is non-final.

3)☒ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-22* is/are pending in the application.

4a) Of the above claim(s) *10-22* is/are withdrawn from consideration.

5)☒ Claim(s) *1-9* is/are allowed.

6)☐ Claim(s) _____ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ *All* b)☐ Some * c)☒ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This application is in condition for allowance except for the presence of claims 10-22 directed to invention non-elected without traverse.

2. Claims 10-22 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on march 20, 2007.

Specification

3. The abstract of the disclosure is objected to because of its undue length. Correction is required. See MPEP § 608.01(b).

Priority

4. Acknowledgment is made of applicant's claim for foreign priority based on an application filed in Japan on July 18, 2003. It is noted, however, that applicant has not filed a certified copy of the Japanese application as required by 35 U.S.C. 119(b).

Allowable Subject Matter

5. Claims 1-9 are allowed.

6. As allowable subject matter has been indicated, applicant's reply must either comply with all formal requirements or specifically traverse each requirement not complied with. See 37 CFR 1.111(b) and MPEP § 707.07(a).

7. The following is a statement of reasons for the indication of allowable subject matter:

The prior art of record does not disclose or make obvious the claimed mobile communication system including a radio control station, a base station connected to the radio control station, and a mobile station which performs, with the base station, data communication in a parallel combinatory spread-spectrum scheme. The claimed radio control station comprising a storage which stores a plurality of data communication rates and a plurality of transmission power ratios, the plurality of the data communication rates and the plurality of the transmission power ratios corresponding to a plurality of parameters used in the parallel combinatory spread-spectrum scheme, the plurality of the parameters indicating numbers of assignment spreading codes and multicoding schemes. A first acquisition unit configured to acquire, from the storage, at least one of the parameters, an acquired one of the parameters corresponding to the number of the assignment spreading codes and the transmission power ratio, at least one data communication rate corresponding to at least acquired one of the parameters being higher than and close to a data communication guaranteed rate of a communication service; a second acquisition unit configured to acquire, from the base station, the number of assignment spreading codes and a transmission power ratio; a computation unit configured to perform computation, if the first acquisition unit acquires a plurality of the parameters, based on each of the numbers of the assignment spreading codes acquired from the storage and

each of transmission power ratios acquired from the storage, and the number of assignment spreading codes and a transmission power ratio acquired from the base station, the computation unit determining, from the computation, one parameter suitable for a margin for the number of the assignment spreading codes acquired from the base station and a margin for the transmission power ratio acquired from the base station and a transmitter which transmits a determined parameter to the base station. The base station comprising a receiver which receives the determined parameter from the radio control station. The claimed determination unit configured to determine transmission power for transmitting data to the mobile station, based on a transmission power ratio corresponding to the determined parameter; and the first transmitter which transmits data with the transmission power to the mobile station, the data being generated by using the determined parameter and performing spreading processing, and the mobile station comprising: a reproduction unit configured to reproduce the data by using the determined parameter and performing despreading processing.

Response to Arguments

8. Applicant's attorney failed to correct the application's minor informalities, hence the examiner could not allow the application.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Zhou, et al disclose a demodulator has a plurality of matched filters in parallel. Each matched filter has a different binary PN code, a plurality of sample holders, a plurality of multipliers, an adder, and a controller. The sample holders has a common input, a switch, a first capacitor, a first inverse amplifier with an output and an input connected to the common input through the switch and the capacitor, and a first feedback capacitor for feeding the output of the first inverse amplifier back to the input. Each multiplier has a first and second sub-multiplexers, one of sub-multiplexer selecting corresponding sample holder output and another sub-multiplexer selecting a reference voltage.

Faruque, et al show a number of user IDs are assigned to each wireless device. The number of user IDs required is based on the type of information transmitted (e.g., video, voice, or data). The user ID's generate the orthogonal Walsh codes used to cover a data signal to be transmitted. Each Walsh code is 2.sup.n -bits in length and the memory size is 2.sup.n.times.2.sup.n where n is the number of bits in the Walsh code. Each unique user ID addresses a memory to generate a unique Walsh code corresponding only to that user ID. The orthogonal codes output from the memory cover the information to be transmitted. This results in the transmitted signal being orthogonal to other users and also orthogonal within the transmitting user's own signal bursts.

Shou, et al teach a spread spectrum communication system for heightening the speed of communication. The present invention transfers the first PN code sequence itself as the first component, adds and transfers zero or more instances of the second PN code sequence given a phase difference as the second component, and defines an information for transmitting by the number of the second PN codes corresponding to a cycle of said first PN code sequence.

Fattouche, et al display a MultiCode Spread Spectrum (MCSS) is a modulation scheme that assigns a number N of Spread Spectrum (SS) codes to an individual user where the number of chips per SS code is M. When viewed as Direct Sequence Spread Spectrum, MCSS requires up to N correlators (or equivalently up to N Matched Filters) at the receiver with a complexity of the order of NM operations. In addition, a non ideal communication channel can cause InterCode Interference (ICI), i.e. interference between the N SS codes. In this patent, we introduce three new types of MCSS. MCSS Type I allows the information in a MCSS signal to be detected using a sequence of partial corrrelations with a combined complexity of the order of M operations. MCSS Type II allows the information in a MCSS signal to be detected in a sequence of low complexity parallel operations which reduce the ICI. MCSS Type III allows the information in a MCSS signal to be detected using a filter suitable for ASIC implementation or on Digital Signal Processor, which reduces the effect of multipath. In addition to low complexity detection and reduced ICI, MCSS has the added advantage that it is spectrally efficient.

10. This application is in condition for allowance except for the above formal matters.

11. Prosecution on the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

12. A shortened statutory period for reply to this action is set to expire **TWO MONTHS** from the mailing date of this letter.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **WILLIAM D. CUMMING** whose telephone number is 571-272-7861. The examiner can normally be reached on Monday-Thursday 11am-8:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Appiah can be reached on 571-272-7904. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

14. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

WILLIAM D. CUMMING
Primary Examiner
Art Unit 2617

wdc

UNITED STATES
PATENT AND
TRADEMARK OFFICE

William Cumming
Primary Patent Examiner
William.Cumming@uspto.gov